

12-1-2-4 Impairment ratings and scores for diatom association indexes

Table 1 Impairment ratings and scores for diatom association indexes from mountain streams when a local reference or control site is not available.

Score	Rating	Diversity Index	Pollution Index	Siltation Index	Disturbance Index
1	high stress.....<1.00 severe pollution..... <1.50 heavy siltation.....>60 high disturbance..... >75				
2	moderate stress.... 1.00 - 1.75 moderate pollution..... 1.50 - 2.00 moderate siltation..... 40 - 60 moderate disturbance..... 50-75				
3	minor stress..... 1.76 - 2.50 minor pollution..... 2.01 - 2.50 minor siltation..... 20 - 39 minor disturbance..... 25-50				
4	no stress..... >2.50 no pollution..... >2.50 no siltation..... <20 normal disturbance..... <25				
		<u>Lowest Score</u>	<u>Biological Integrity</u>	<u>Overall Impairment</u>	
		1	poor	severe	
		2	fair	moderate	

3	good	minor
4	excellent	none

Table 2 Impairment ratings and scores for diatom association indexes from plains streams when a local reference or control site is not available.

Score	Rating	Diversity Index	Pollution Index	Siltation Index
1	high stress.....<1.50 severe pollution..... <1.00 heavy siltation.....>80			
2	moderate stress..... 1.50 - 2.50 moderate pollution..... 1.00 - 1.50 moderate siltation..... 70 - 80			
3	minor stress..... 2.51 - 3.50 minor pollution..... 1.51 - 2.00 minor siltation..... 60 - 69			
4	no stress.....>3.50 no pollution..... >2.00 no siltation.....<60			

<u>Lowest Score</u>	<u>Biological Integrity</u>	<u>Overall Impairment</u>
1	poor	severe
2	fair	moderate
3	good	minor
4	excellent	none

Table 3 Impairment ratings and scores for diatom association indexes when a local reference or control site is available and used.

Score	Rating	Diversity Index ^(a)	Pollution Index ^(a)	Siltation Index ^(b)	Similarity Index ^(c)
1	high stress	<40% >160%			
	severe pollution.....		<50%		
	heavy siltation increase.....			<20%	
	very dissimilar communities				<20%
2	moderate stress	40 - 60% 140 - 160%			
	moderate pollution		50 - 70%		
	moderate siltation increase			20 - 40%	
	somewhat dissimilar communities.....				20 - 40%
3	minor stress	61 - 80% 120 - 139%			
	minor pollution		71 - 90%		
	small siltation increase.....			41 - 60%	
	somewhat similar communities.....				41 - 60%
4	no stress	>80% <120%			
	no pollution		>90%		
	no siltation increase.....			>60%	
	very similar communities				>60%

(a)Value is ratio of study site index to reference site index x 100.

(b)Value is ratio of reference site index to study site index x 100.

(c)Percent community similarity (Whittaker and Fairbanks, 1958).

<u>Lowest Score</u>	<u>Biological Integrity</u>	<u>Overall Impairment</u>
1	poor	severe
2	fair	moderate
3	good	minor
4	excellent	none